Executive Summary

This document presents the 2002 Corrective Action Plan (CAP) for Underground Storage Tank (UST) Site 454, Hill Air Force Base (HAFB or Base), Utah. Site 454 is assigned the Utah Department of Environmental Quality – Division of Environmental Response and Remediation (UDEQ-DERR) Leaking Underground Storage Tank (LUST) Site Code "ELHM".

Building 454 was located in the south area of HAFB and served as the Base Exchange Service Station, Auto Care, and Auto Parts facility between 1957 and 1999. USTs at the site were replaced in 1980 and again in 1995. Building 454 was torn down in 1999 and replaced by Building 420, the new Base Exchange Service Station.

In 1993, HAFB initiated a subsurface investigation at UST Site 454 (LUST Site Code "EIHG"). A Soil Vapor Extraction (SVE) system was installed in December 1995 to remediate an area where soil samples had indicated the presence of Benzene, Toluene, Ethylbenzene, Xylene, and Naphthalene (BTEXN) compounds. The system was decommissioned in 1998 when closure samples indicated that BTEXN concentrations were below UST closure criteria.

In May 1999, Monitoring Well U9-454-001 was installed down gradient of the former Building 454 as part of the Operable Unit 9 (OU9) South Area Site Inspection. Approximately 2 feet of Light Non-Aqueous Phase Liquid (LNAPL) was encountered in this monitoring well. Free-product is suspected to originate from the original set of USTs, which were located at the site from 1957 to 1980. Tightness tests were performed on the existing UST system and provided no evidence that the current tank system was leaking. Lateral and vertical migration of the free-product may have been the result of a 'stair-stepping' effect. The fuel migrating downward may have encountered clay lenses, which impeded vertical migration and caused lateral movement. As a result, the fuel may have 'stair-stepped' its way to the shallow groundwater. This may explain why free-product was not encountered in the original subsurface investigation performed at the site.

In November 2000, a letter was submitted to the UDEQ-DERR requesting that the soil and free-product at Site 454 remain within the regulatory oversight of the UDEQ-DERR LUST program and the groundwater contamination at the site be incorporated into OU11 and managed under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) guidelines. This request was made due to the presence of OU11-related halogenated hydrocarbons found in the shallow water table and existing deeper groundwater aquifers.

Soil samples collected at the site indicate contamination is limited to the 'smear zone' where seasonal groundwater fluctuations occur. The vadose zone showed only low levels of BTEXN compounds below the Tier 1 screening levels. As a result, the CAP addresses only free-product remediation.

Several technologies for the remediation of free-product at Site 454, including automated systems, manual systems, and SVE, are evaluated in this CAP. The conclusions of this report

support the installation of an SVE system as the method of corrective action at Site 454. The implementation of SVE at Site 454 is a cost-effective method of free-product remediation. SVE is relatively inexpensive to install when compared to other automated systems. SVE also significantly reduces labor hours required to manually collect free-product. The SVE system will be monitored over the course of one year to make the appropriate adjustments for optimal free-product remediation efficiency.